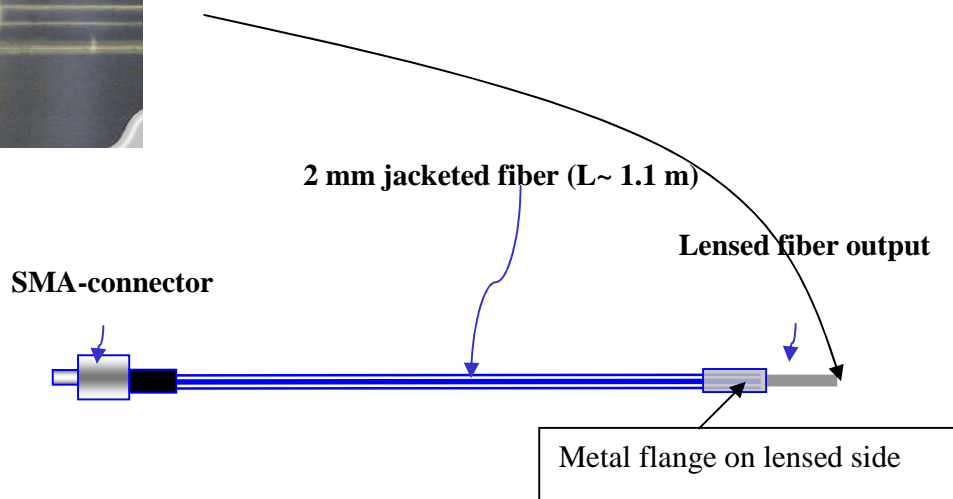
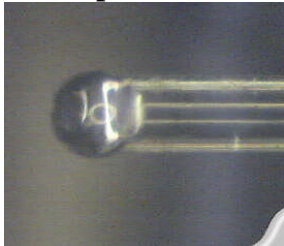


Ball- lensed POF pigtail

Example testing report:

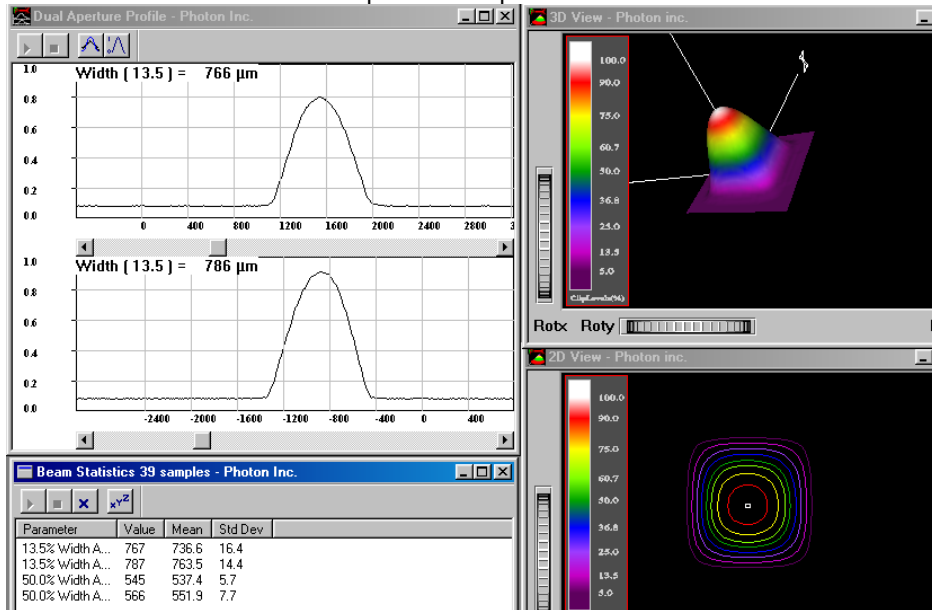
Part Number:	Specialty micro-lensed fiber pigtail, mm fiber
Unit Number:	059
Q-ty	1
Fiber type	POF 980, NA~0.5 primary-coated /2.2 mm jacketed
Connectors	SMA
Length of the fiber , m	>1
Test power, dBm	~13
Max power , dBm	~30
Image (FWHM) at lensed side (@~520 nm), um	~540x550
Max bending radius	15 cm
Test temperature	21C

Micro-photo of lensed fiber output:



WARNING: Lensed fiber side of customized fiber pigtail has metal flange and covered with blue protection tube. Remove blue protection tube carefully before using the fiber pigtail. DO NOT BEND OR TWIST FIBER TO PREVENT BREAKAGE. USE ONLY ISOPROPIL ALCOHOL TO CLEAN THE LENSED FIBER TIP.

2-D plot of optical field profile measured at the output of micro-lensed fiber at wavelength of ~520nm. Distance between the fiber and optical beam profiler was ~ 0.7 mm.



Components were tested using following equipment:

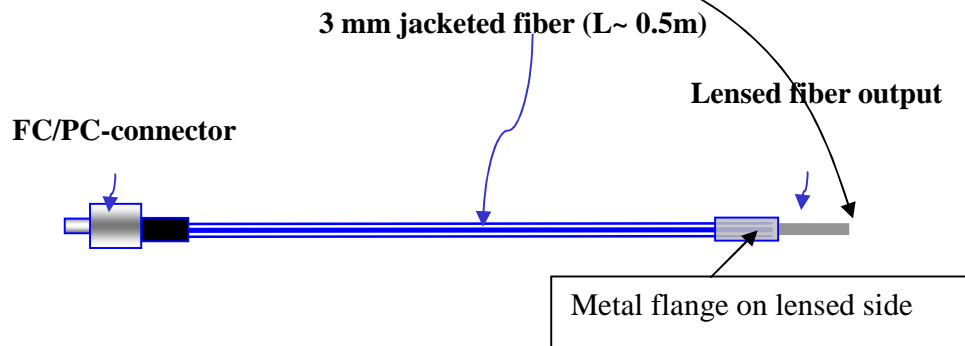
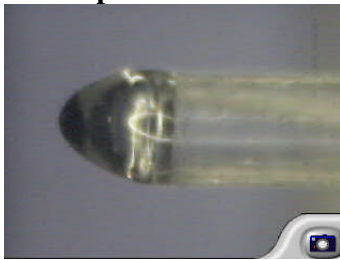
OSA:	AQ-6315A (ANDO)
LED source:	LE-1G-D(WT&T)
Optical power meter:	ML910B (Anritsu)
Temperature measurement	Multiscan 1200 (Omega)
LED driver	LE-2C3 (WT&T)
Photo receiver:	TIA-500 (TTI)
Optical field measurement:	BeamPro (Photon Inc.)
T&M/Quality control:	Operator 5

Cone-lensed POF pigtail

Example testing report:

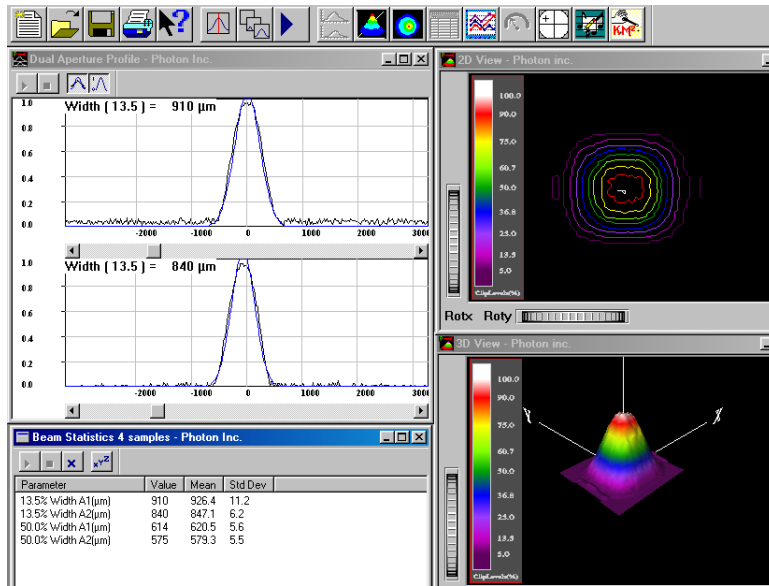
Part Number:	Specialty micro-lensed fiber patch-cord, mm fiber
Unit Number:	035
Q-ty	1
Fiber type	POF 1500, NA~0.5 primary-coated /3 mm jacketed
Connectors	FC/PC
Length of the fiber , cm	~50
Test power, dBm	~13
Max power , dBm	~30
Image (FWHM) at lensed side (@~520 nm), um	~620x600
Max bending radius	15 cm
Test temperature	21C

Micro-photo of lensed fiber output:



WARNING: Lensed fiber side of customized fiber pigtail has metal flange and covered with blue protection tube. Remove blue protection tube carefully before using the fiber pigtail. DO NOT BEND OR TWIST FIBER TO PREVENT BREAKAGE. USE ONLY ISOPROPIL ALCOHOL TO CLEAN THE LENSED FIBER TIP.

2-D plot of optical field profile measured at the output of micro-lensed fiber at wavelength of ~520nm. Distance between the fiber and optical beam profiler was ~ 0.7 mm.



Components were tested using following equipment:

OSA:	AQ-6315A (ANDO)
LED source:	LE-1G-D(WT&T)
Optical power meter:	ML910B (Anritsu)
Temperature measurement	Multiscan 1200 (Omega)
LED driver	LE-2C3 (WT&T)
Photo receiver:	TIA-500 (TTI)
Optical field measurement:	BeamPro (Photon Inc.)
T&M/Quality control:	Operator 5

Angled end POF pigtails

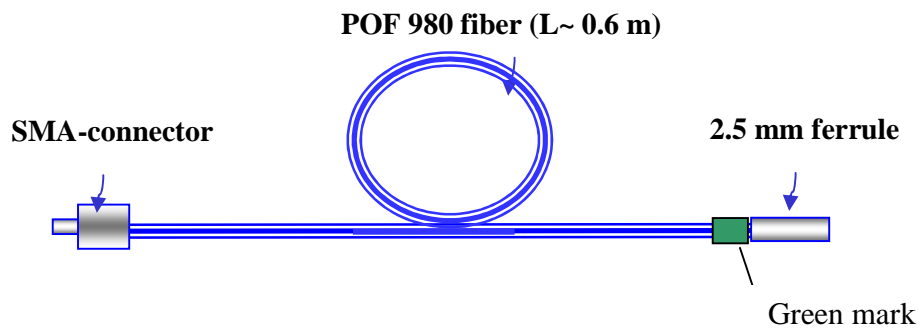
Example testing report

Angle polished POF 980/1000 SMA connectorized fiber assemblies

Part Number:	Fiber pigtail with 2.5 mm ferrules(custom-made)			
Unit Number:	1	2	3	4
Fiber	POF 980/1000			
Connector	SMA	SMA	SMA	SMA
Fiber protection	2.2 mm jacket			
Fiber length (m):	~0.6	~0.6	~0.6	~0.6
Optical insertion loss , dB**	~0.8	~1.0	~1.1	~0.9
Fiber polish angle, Deg	~15	~45*	~45*	~45*

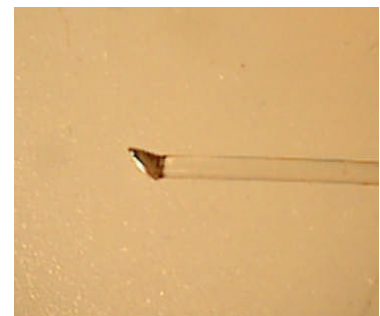
* Samples with integrated Al mirror at the angle-polished end

** Insertion loss includes loss on SMA-adapter Measured at wavelength of ~530 nm.



Fiber assemblies have been tested using following equipment:

Fiber –coupled source: LE-01G @530 nm (WT&T)
 Fiber-coupled laser: LD-04@670 nm (WT&T)
 Power meter: ML910B (Anritsu Inc)
 Connector check: Nikon
 T&M/Quality control: Operator 2



Warning: Clean connectors of fiber assembly before use. Use IPA and cotton Q-tips to clean angle-polished fiber.

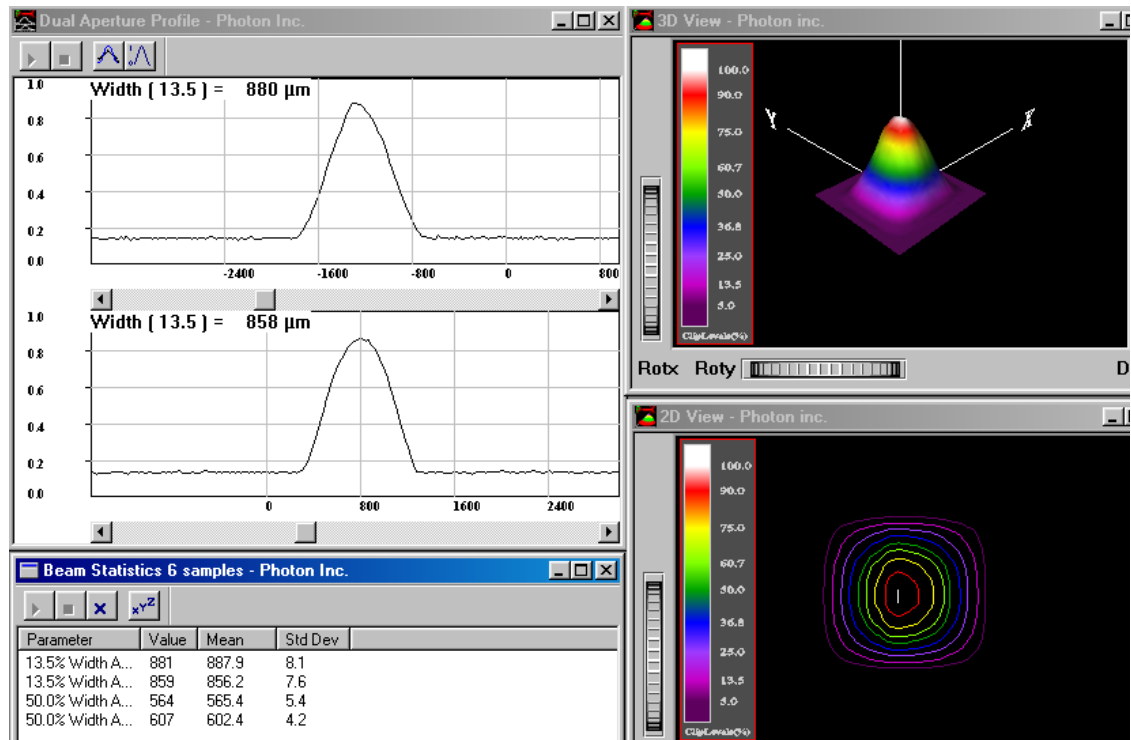
Tapered end POF pigtailed

Example testing report (1):

Part Number:	POF_BL6		
Unit Number:	06	07	08
Package type	-	-	-
Connectors compatibility	-	-	-
Dimensions, mm	~3 x1.6	~3x1.6	~3x1.5
Lens material			
Test power, dBm	+10dBm	+10dBm	+10dBm
Max power, dBm	~23	~23	~23
Test wavelength	~637 nm/520 nm		
Fiber/connector	980/1000 POF bare fiber; NA~0.5, flat polished		
Working distance, mm	1.1	1.4	1.45
Beam FWHM (@WD mm focusing)*, mm	~0.58	~0.66	~0,68
Test temperature	21C	21C	21C

***Measurement conditions:** LED source @ ~637 nm is coupled to multi-mode fiber patch-cord. Lensed fiber has been attached to the end of patch-cord's fiber using glass ferule.

Focusing mode: beam profile measurements at working distance of ~1.1 mm from the lens. Typical beam profile:



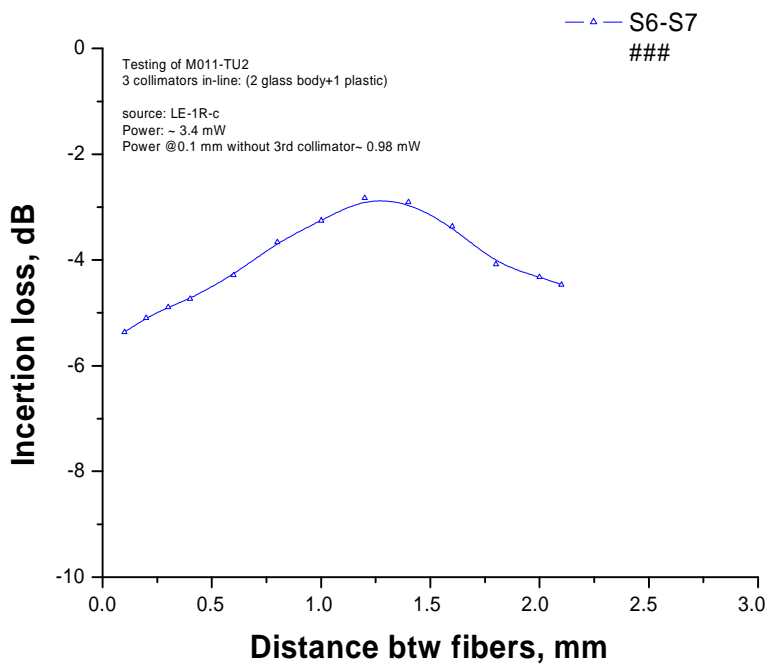
Sample: 06

07

08



A pair of samples 06 & 07 has been tested on U-bench. Position of fibers has been adjusted to max coupled power in X- and Y- directions. Z-scan has been performed:



Unit has been tested using following equipment:

Light sources:	LE-1R; LE-1G-C (WT&T)
Beam profiler	Beam Pro & Beam Scan (Photon Inc)
Temperature control	1200 (Omega)
T&M/Quality control:	Operator 3

Tapered end POF pigtails

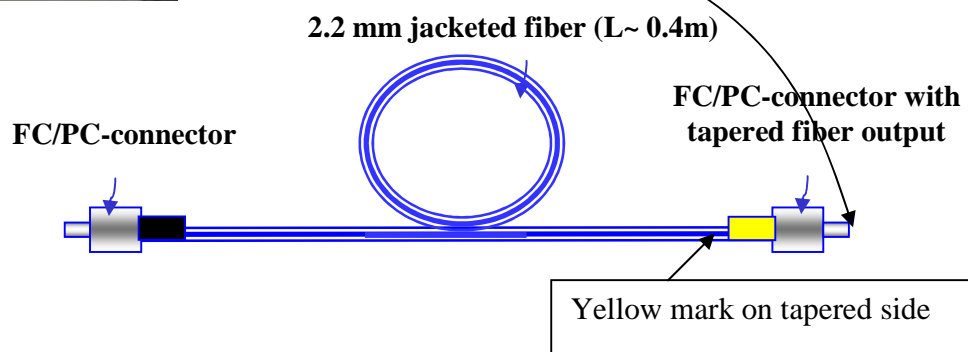
Example testing report (2):

WARNING: Tapered fiber side of customized patch-cord has black booth, yellow mark on booth and black protection cap. Polished fiber side connector has black colored booth and small transparent connector protection cap.

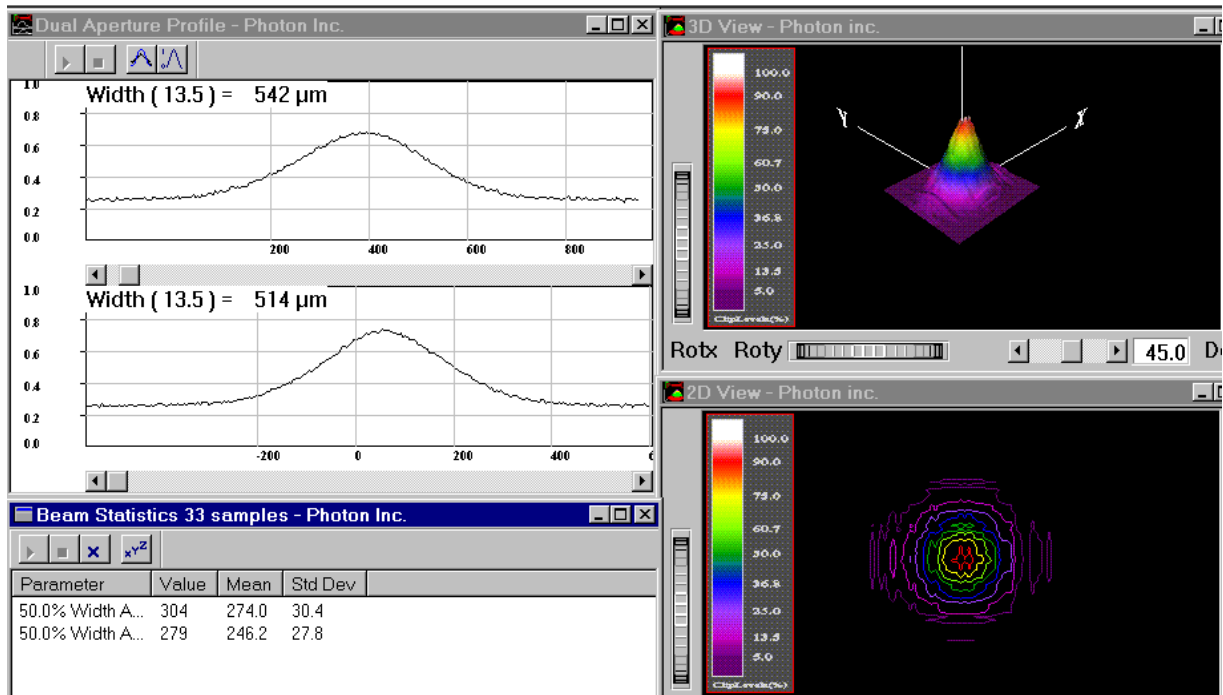
Customized fiber patch-cord Testing report

Part Number:	Specialty tapered and micro-lensed fiber patch-cord, mm fiber
Unit Number:	Replacement unit
Q-ty	1
Fiber type	POF 980/1000 , NA~0.5 primary-coated /3 mm jacketed
Connectors	FC/PC
Length of the fiber , cm	~40
Test power, dBm	~10
Max power , dBm	~20
Image (FWHM) at tapered side (@ 630 nm, um	~230x245
Max bending radius	15 cm
Test temperature	21C

Micro-photo of tapered fiber output (FC/PC connector with black booth).



2-D plot of optical field profile measured at the output of tapered/micro-lensed fiber at wavelength of ~ 640 nm. Distance between the fiber and optical beam profiler was ~ 0.4 mm.



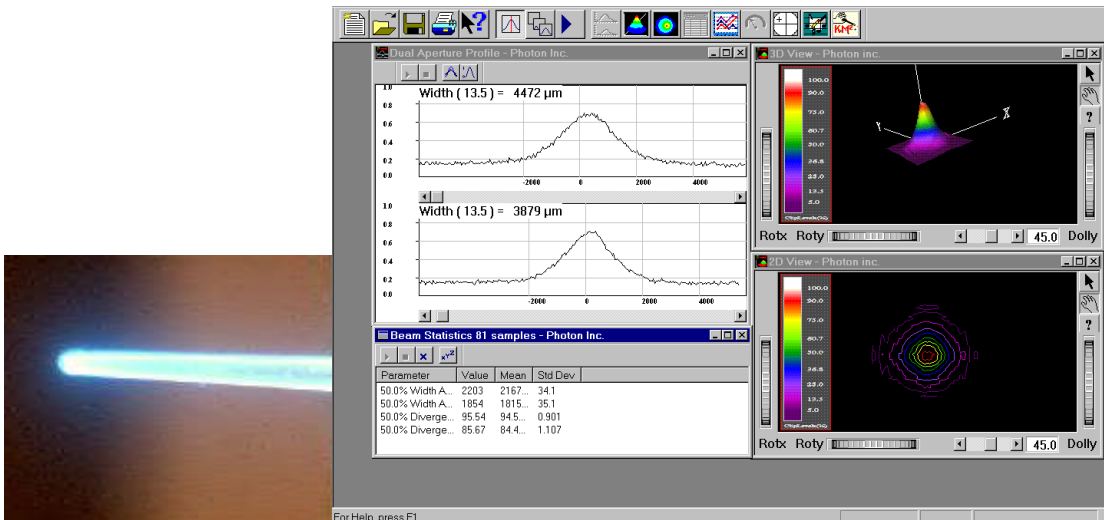
Components were tested using following equipment:

OSA:	AQ-6315A (ANDO)
Wavelength meter:	TQ8325c (Advantest)
Optical power meter:	ML910B (Anritsu)
Temperature measurement	Multiscan 1200 (Omega)
LED driver	LE-2C3 (WT&T)
Optical splitter	ODB-1 (WT&T)
Photo receiver:	TIA-500 (TTI)
Objective:	Model-011 (WT&T)
Optical field measurement:	BeamPro (Photon Inc.)
T&M/Quality control:	Operator 2

Tapered end POF pigtailed

Example testing report (3):

Part Number:	Customized tapered lensed fiber
Unit Number:	TFx-02
Fiber:	MM, POF 980/1000 3 mm partially jacketed plastic fiber; NA~0.5
Connector	FC/PC
Fiber pigtail length (m):	>1
Length of tapered fiber section (mm):	~15
Type of lens at the tapered fiber end	Aspheric
Optical core size at the end of taper, um	~120
Far field Θ_{\perp}, Deg	~94
Far field $\Theta_{ }$, Deg	~85
Wavelength, nm	~670; "white light"



Sample has been tested, using following equipment:

Laser: LD04 @640 nm (WT&T)
 Broad band source: LE-1WB-C (WT&T)
 Far field @640 nm: Beam profiler (Photon Inc)
 Micro-photo @VL: Nikon
 T&M/Quality control: Operator 1

WARNING: RELEASE FC/PC CONNECTOR FIRST WHEN REMOVING SAMPLE FROM CONTAINER. HANDLE WITH CARE.

Remove protection tube at the tapered fiber end. Clean fiber tip only using IPA.